KALYAN KUNDU

Home Address

House Name: Pratiskha, Paschim Pally, Santiniketan - 731235, West Bengal, India.
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Office Address(till October, 2013)

Institute of Physics, Sachivalaya Marg, Bhubaneswar - 751005, Odisha, India.
Telephone : Office (0674) 2306444, 6666, 6500 and 6502,
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e-mail : kundu@iopb.res.in (exiting)

Personal Data

Date of Birth : 10 / 18 / 53 U. S. Social Security Number : 038 - 48 - 6333
Country of Birth : *INDIA*
Citizen : *INDIAN*

Employment

August, 2015 – *April*, 2016

Guest Lecturer *Dept. of Integrated science, Visva-Bharati, Santiniketan 731235, West Bengal, India.*

January, 2012 – *October*, 2013

Professor (H +) of Physics at the *Institute of Physics, Bhubaneswar -751005, Odisha, India.*

January, 2009 – *Dec.*31, 2011

Professor (H) of Physics at the *Institute of Physics, Bhubaneswar - 751005, Odisha, India.*

February, 2001 – 31*stDec.*, 2008

Associate Professor of Physics at the *Institute of Physics, Bhubaneswar - 751005, Odisha, India.*

November, 2007 – *April* 30, 2008

Professor of Physics at the *the Department of Physics, Visva-Bharati, Santiniketan 731235. It was a tenured position. Offer was made in May, 2007. I joined Visva-Bharati on deputation with retention of lien from the institute*

February, 1994 – *January*, 2001

Assistant Professor of Physics at the *Institute of Physics, Bhubaneswar - 751005, Odisha, India.*

$\underline{October, 1989 - January, 1994}$

Senior Lecturer of Physics at the *Institute of Physics, Bhubaneswar - 751005, Odisha, India.*

$\underline{September, 1988 - August 31, 1989}$

Research Associate of Professor U. Mohanty at *Boston College*

Also a Research Associate of Professor P. Phillips at MIT.

$\underline{June, 1985 - August, 1988}$

Postdoctoral Associate of Professor P. Phillips at MIT.

$\underline{March, 1984 - May, 1985}$

Postdoctoral Fellow with Professor John Ross at *Stanford University.*

$\underline{September, 1978 - February, 1984}$

Teaching Assistant in the Department of Chemistry at *Brown University.*

$\underline{March, 1977 - August, 1978}$

Research Assistant in the Department of Chemistry at the *Association for the Cultivation of Science, Calcutta, India.*

$\underline{November, 1976 - February, 1977}$

Teaching Assistant at *Vidyasagar College for Women, Calcutta, India.*

Special Appointment

Professor, Homi Bhaba National Institute (DAE), Mumbai, India,
Letter No. HBNI/AC/2012/773, Aug. 2. From 2009 -October 2013.

Visiting Positions

(1) May, 2015 - October, 2015 , Visiting Scientist, Department of Physics, Indian Association for the Cultivation of science, Jadavpur, Kolkata 700032, West Bengal.
(2) May, 2004, Visiting Professor, Department of Physics, King Fahd University of Petroleum & Minerals, Daharan, Saudi Arabia.
(3) April, 2003, Visiting Scientist, Department of Physics, Otto-Von Guericke University, Magdeburg, Germany.
(4) July, 1998, Senior Visitor, ICTP, Trieste, Italy.
(5) Dec. 1997 - Feb. 1998, Adjunct Professor, Department of Physics and Astronomy, University of New Mexico, Albuquerque, U. S. A.

Research Related Activities

(1) In the editorial board of the publication of the proceedings of CMDAYS
(2) Organizer of "I wanna know" series. First meeting was held 08.05. 2002.
For further information see http:// www.iopb.res.in /~ kundu

(3) Convener, "CONDENSED MATTER DAYS-1995".
(4) Guest Editor, Indian J. Phys. Vol. 86 A, Number 6, November (2003).
(5)Guest Editor, Indian J. Phys. Vol. 70 A, Number 6, November (1996).
(6) Joint Guest Editor, Proceedings of CMDAYS-2005, appeared in Ind. J. Phys.
(7) A founder member of the conference, "CONDENSED MATTER DAYS", started in 1993 at the Institute of Physics, Bhubaneswar, India. Also a member of the committee, which made the charter of the same conference.

Research Experience

Following students are awarded Ph. D. in Physics by Utkal University, Odisha, India.
(1) Dr. P. K. Datta, (2) Dr. D. Giri, (3) Dr. B. C. Gupta, and
(4) Dr. T. Bagarti is awarded Ph. D. degree in Physics by HBNI in the year 2013.

Academic Activity

Conducted "Refresher Course for College Teachers" in June, 2006 and June 2007.
The examiner of science modeling by Odisha school students, conducted by the Alumni Association of the Institute of Physics.
The examiner of the science modeling conducted by KIIT, Odisha for their +2 students.

Teaching Experience

Taught Classical Mechanics (both general and advance), Quantum Mechanics, and Advanced Statistical mechanics at Integrated Science Dept. of Visva-Bharati from Aug.2015 to April, 2016.
Taught "General Quantum Mechanics in 2011 and 2012
Taught Methods in Mathematical Physics at the Institute of Physics from 1990 - 1993, 1996-97, 1999-2001, 2004-2010
Taught Many Body Physics at the Institute of Physics from 2002 - 2003.
Taught general aspects of Condensed Matter Physics at the Institute of Physics in the year 1994-95.
Taught a part of the Solid State Physics Course at the Institute of Physics in the year 1989.

Subjects Taught in General Quantum Mechanics :

Introduction to Schrödinger equation, equation of continuity, derivation of Newtonian Mechnics from Qu. Mechanics, Time evolution operator and its equation of motion, measurement in Qu. Mechanics, wave-particle dualism from path integral perpespective, derivation of semiclassical equation of motion and inverse mass tensor from Planck's relation, combination of Planck and de Brogli relations in STR, scattering matrix, Morse Potential, reflectionless potential and supersymmetry, density of states and its realtion to the formation of bound states, gauge transformation, Schwinger Oscillators, stationary perturbation theory (non-degenerate and degenerate), second order and first order Stark Effects, introduction to Hilbert Space, algebra of bosonic and fermionic operators, displaced harmonic oscillator, Coherent state, normal mode analysis and Phonon.

Subjects Taught in Mathematical Methods :

Nonhermitian Matrices and its relation to dual bases, Linear Algebra, Complex Analysis, Integral Equations, Differential Equations and Green's Function Techniques, Introduction to PDE, Probability Theory, Asymptotic Analysis, Elementary Topology and Elementary Differential Geometry.

Subjects Taught in Many Body Physics :

Algebra of operators, Statistics, Hilbert Space, Second quantization, Coherent states, Phonons, Polarons, Hatree-Fock method.

Teaching Experience at the National and International Level

(1) Taught "Mathematical Physics" in M. Sc. Part I, Physics, gave a few lectures in Quantum Mechanics in B. Sc. Part III, Physics, and gave a short course in Abstract Algebra in the Department of Statistics at Visva-Bharati.

(2) Workshop on " Solitons and their applications ", 9. 5. 04 to 1. 6. 04, King Fahd University of Petroleum & Minerals, Daharan, Saudi Arabia.

Topics: Classification of 2nd order partial differential equations, and dispersion relation, the method of characteristic to solve wave equation, the use of Laplace and Fourier transformation to solve linear PDEs, dispersion relation and classification of waves, KdV equation, and its transformation properties under Lie group transformations, solitary wave solution of KdV equation, analysis of the nature of the solutions, a general introduction to scattering problem, delta function potential and sech2 potential and the corresponding scattering data, Merchenko equation and inverse scattering problem, the solution of solitons in Kdv equation using inverse scattering problem, properties of solitons.

(3) A course in complex analysis, April - May, 2000, Indian Association For the Cultivation of Science, Calcutta, India

Guiding of Academic Projects of Predoctoral Scholars :

(1)Ms. Anwesha Sarkar, Predoctoral Scholar, I. O. P., Bhubaneswar, May 2011.

Project : Study of spectral properties of the physical system using transfer matrix method.

(2) Mr. Shubhasis Rana, predoctoral Scholar. I. O. P. May-2010.

Project : Introduction to Quantum Hall effect in graphenes

(3) Mr. R. Batabyal, Predoctoral Scholar, I. O. P. , May 2007

Project : Transport Phenomena In Solids : Beyond Boltzmann Equation.

(4) Mr. Ambresh Shivaji, Predoctoral Scholar, I. O. P. May 2007

Project: Turning Point Problem In Physics Through Airy Functions

(5) Mr. Shankhadeep Chakraborty, Predoctoral scholar, I. O. P., May 2006

Project : A Brief Introduction On 1-D Fibonacci Quasicrystals

(6) Mr. Amit Sharma, Predoctoral Scholar, I. O. P., May 2006

Project : Oscillating Chemical Reactions

(7) Mr. Nabyendu Das, Predoctoral scholar, I. O. P. May 2005

Project : Polaron and Davydov Soliton

Guiding of Academic Projects of M. Sc II Summer Students :

(1) Ms. Subhashree Mishra, Ravensha University, Odisha, India, May-June 2012.

Project : Understanding of the dynamics of damped driven oscillator using Mathematica.

(2) Ms. Shreenu Pattanaik, National Institute of Technology, Rourkela (Odisha), May-June, 2011.

Project : Application of numerical techniques to study some physical Problems.

(3) Ms. Sagarika Das, M. Sc. 2nd year, North Odisha University(Odisha), May-June 2010.

Project: Why do we study two level systems in quantum mechanics ?

(4) Mr. B. Santra, M. Sc. 2nd year, I. I. T. Kharagpur, May-June 2006,

Project : A study of driven nonlinear pendulum.

Administrative Activity

Pre-doctoral in-charge for two academic sessions, 2009-10, 2010-2011.

Education

Ph . D, 1984 **BROWN UNIVERSITY**, Providence, Rhode Island, USA.

Subject : Chemistry.

Thesis Adviser : Professor R . G . Lawler.

<u>ThesisTitle</u>

Theoretical Studies of Magnetic Spin Isotope Effects.

M. Sc., 1975 **Calcutta University, India**

Subject : Chemistry

Performance : First class with specialization in Organic Chemistry

B. Sc., 1973 **Calcutta University, India**

Honors Subject : Chemistry

Performance : First class with honors in Chemistry.*

<u>Awards</u>

1970 - 1973 Indian Government Scholarship for undergraduate study.

1973 - 1975 West Bengal Government Scholarship for Master's degree.

<u>Miscellaneous</u>

(1) External examiner for the practical examination of B. Sc 2nd year, Physics , Visva-bharati, May 18-20, 2016

External examiner for Computer Application, B. Sc 2nd year and Physics practical examination, 2nd year, Visva-bharati, April, 2015.

(2) A selection committee member for faculty selection in Directorate of Distance Education, Vidyasagar University, Midnapore West, West Bengal, 07.04.2015

(3) A viva-voce examiner of Dr. Sankalipta Chakraborty for Ph.D in Physics, Dept. of Physics and Techno-Physics, Vidyasagar University, Midnapore West, West Bengal, 14.04.2015

(4) An external examiner for the evaluation of Pre-Ph. D. seminar of Mr. S. Konar, Department of Physics, Visva-Bharati, India, 15th September (2012)

Topic : Nanotubes, nanowires and their interaction with semiconducting surfaces :
A density functional approach

(5) An external examiner of Ph. D. thesis in Physical Chemistry of Mr. Gurupada

* **Due to various irregularities, the final examination for the Bachelor's degree was held in November, 1973. The usual time was March. The results were published a year later. Consequently, the classes for the Master's degree could not start before January, 1975. Final results were published in December, 1976. Officially, however, we are the class of 1973 for the Bachelor's and 1975 for the Master's degree.**

Goswami,
Department of Chemistry, Visva-Bharati University, India (2012)
(6) An external examiner of Ph. D. thesis in Physical Chemistry of Mr. Debasish Mondal, Department of Chemistry, Calcutta University, India, (2012)
(7) An external examiner of projects of a M. Sc course in Nanoscience and Technology, Department of Physics, Tezpur University, India. 8th May, 2012
(8) An external examiner of M. Tech Thesis in Physics of Mr. Ramesh Gandikota, School of Physics, Central University of Hyderabad, India, (2012)
(9)A children's talk at Blossom School, Bhubaneswar (2010).
Topic : Science in our everyday life.
(10) Editor of the Annual Report of Institute of Physics, 2008-2009.
(11) Faculty Advisor to Alumni Association of Institute of Physics, 2007-2008, and 2008-2009.
(12)A listed referee of Indian Journal of Physics,
(13) A listed referee of Pramana- J. Phys
(14) A listed referee of Ind. J. Chem.
(15) Reviewed a research grant proposal for the year -2006 for "The Chilean Research Fund Council". Santiago, Chile,
(16) Referee for a project, submitted to Council of Scientific and Industrial Research, India,
(17) The official thesis reader of the Ph. D. thesis for physics of Sri Samar Chattopadhyay, The University of Kalyani, West Bengal, India.
(18) External examiner for Physics Practical in the Department of Physics, Berhampur University, Odisha, 2002,and 2003
(19) Acknowledged in the Ph. D. thesis of Dr. F. A. B. B. De Moura, March 2003, Department of Physics, UFPE, Recife, Pernambuco, Brasil.
(20) The official thesis reader of the Ph. D. thesis for Physics of Mr. Asit Kumar Mondal, Visva Bharati, Santiniketan, West Bengal, India.
(21) An external examiner for the evaluation of the pre-Ph. D. Seminnar of Mr. G. Dattamudi,
Department of Physics, Visva-Bharati University, India, October, 1998
(22) The official thesis reader of the Ph. D. thesis for Physics of Mr. Jyotish Kumar,
B. B. A. Bihar University, Muzaffarpur-842001, Bihar, India.
(23) "Disorder-induced narrowband high-speed electronic devices".
Prof. P. Phillips, Dr. H-L Wu, Prof. D. H. Dunlap, and *Kalyan Kundu*
U. S. Patent No. 5,087,948, April , 1992.

(24) An offer of research scientist -B in the scale of READER
by University Grant Commission, India
through Letter No. F.7-29(Sc.)/88(SA-I), dated 30 June, 1988
(25) An offer of assistant professorship in the department of Chemistry,
Indian Institute of Technology, Kanpur, India
through Letter No. DF/D=3/(FA)/87 =IIK/262/
Dated 19th April, 1987

Work To Be Published

Reaction-diffusion model for population dynamics in habitats with localized predation

Trilochan Bagarti, and K. Kundu

PUBLICATIONS

A Study of Formation of Stationary Localized States Due To Two Quadratic Nonlinear Impurities As A Function of Their Internal Separation Using The Discrete Nonlinear Schrödinger Equation.
Unpublished, Manuscript is with Prof. V. M. Kenkre, Center for Advanced Studies, University of New Mexico, Albuquerque, N. M. U.S. A.

Asymptotic survival probability of a particle with exclusion in presence of traps
Trilochan Bagarti, and *Kalyan Kundu*.
Indian J. Physics 88 1157 (2014).

The effect of exclusion on nonlinear reaction diffusion system in inhomogeneous media.
Trilochan Bagarti, Anupam Roy, *K. Kundu* and B. N. Dev.
Physica A 405 52 (2014).

The effect of exclusion on nonlinear reaction diffusion system in inhomogeneous media.
Trilochan Bagarti, Anupam Roy, *K. Kundu* and B. N. Dev.
arXiv:1211.5578(2012)

A reaction diffusion model of pattern formation in clustering of adatoms on silicon surfaces
Trilochan Bagarti, Anupam Roy, *K. Kundu* and B. N. Dev.
AIPAdvances 2, 042101-1 -042101-13 (2012), doi: 10.1063/1.4757592
View Online : http://dx.doi.org/10.1063/1.4757592
Published by the American Institute of Physics.

Pattern in Ge cluster growth on clean and oxidized Si(111)-(7×7) surfaces
Anupam Roy, Trilochan Bagarti, K. Bhattacharjee, *K. Kundu*, and B. N. Dev
Surface Science 606 777-783 (2012).

Electronic structure of Ag-adsorbed narrow-like strips on Si(110)-(16×2) surfaces. II. A one-dimensional tight binding model with Green's function approach
K. Bhattacharjee, A. Roy, *K. Kundu* and B. N. Dev
Phys. Rev. B 77 115431, (2008).

Electronic structure of Ag-adsorbed narrow-wire-like stripes on Si(110)-(16×2) surfaces. I. An *in situ* STM and STS experiment.
K. Bhattacharjee, A. Roy, *K. Kundu* and B. N. Dev
Phys. Rev. B 77 115430, (2008).

A discrete variational approach for investigation of stationary localized states in a discrete nonlinear Schrödinger equation, named IN-DNLS
Kalyan Kundu
nlin.PS/0403060,and International Journal of Mathematics and Mathematical Sciences, 4 593-629, (2005).

A Study of A New Class of Discrete Nonlinear Schrödinger Equations.
Kalyan Kundu
J. Phys. A. Math. Gen. 35, 8109-8133 (2002).

Perturbative Study of Classical Ablowitz-Ladik Type Soliton Dynamics In Relation To Energy Transport In α-helical Proteins.
Kalyan Kundu
Phys. Rev. E, 61, 5839, (2000).

Discrete nonlinear Schrödinger equation and stationary localized states.
B. C. Gupta and *Kalyan Kundu*.
Nonlinear Dynamics : Integrability and Chaos, Edited by M. Daniel, K. M. Tamizhman, and R. Sahadevan, Narosa Publishing House, New Delhi, 2000, pp. 193-199.
.

A Study of The Electronic Structure of Doped Polythiophene Using Cyclic Boundary.
D. Giri and *Kalyan Kundu*.
Proceedings of Department of Atomic Energy Solid State Physics Symposium,Dec. (1998)

The role of power law nonlinearity in the discrete nonlinear Schrödinger equation on the formation of stationary localized states in the Cayley Tree.
Kalyan Kundu and B. C. Gupta.
European Physical Journal B 3 , 23, (1998).

Stationary localized states due to quadratic nonlinearity in one dimensional system.
Anandamohan Ghosh, B. C. Gupta and *Kalyan Kundu*.
Jour. Phys. Cond. Matter. 10, 2701, (1998).

Localized states in 1-D nonlinear chain.
B. C. Gupta and *Kalyan Kundu*.
Phys. Lett. A 235, 176 (1997).

Stationary Localized states due to a Nonlinear Dimeric Impurity embedded in a perfect 1-D Chain.
B. C. Gupta and *Kalyan Kundu*.
Phys. Rev. B 55, 11033 (1997).

Possibility of polaronic structure in polyaniline lattice: A semiempirical quantum chemical approach.
D. Giri, *Kalyan Kundu*, D. Majumdar, and S. P. Bhattacharya.
J. Mol. Struc. (Theo Chem) 417, 175 (1997).

A Study of the formation of Stationary Localized States due to nonlinear impurities using

the Discrete Nonlinear Schrödinger Equation.
B. C. Gupta and *Kalyan Kundu*.
Phys. Rev. B 55, 894 (1997)

Study of one dimensional correlated disordered system using invariant measure method.
Kalyan Kundu, D. Giri and K. Ray.
J. Phys. *A*29, *Math.Gen.*, 5699 (1996)

Evolution of the electronic structure of cyclic polythiophene upon bipolaron doping.
Kalyan Kundu and D. Giri.
Journal of Chem. Phys. 105, 11075 (1996).

The self trapping transition in the two dimensional system with nonlinear impurity.
B. C. Gupta and *Kalyan Kundu*.
Indian J. Phys. 70*A*, 747 (1996)

Time evolution of models described by a one dimensional discrete nonlinear Schrödinger equation
P. K. Datta and *Kalyan Kundu*.
Phys. Rev. *B*53, 14929 (1996)

A theoretical study of the evolution of electronic band structure of polythiophene due to bipolaron doping.
D. Giri and *Kalyan Kundu*.
Phys. Rev.*B*53, 4340 (1996)

Electronic properties of the random trimer model with degenerate resonances.
D. Giri, P. K. Datta and *Kalyan Kundu*.
Physica *B*210, 26 (1995).

Energy transport in one-dimensional Harmonic chain.
P. K. Datta and *Kalyan Kundu*.
Phys. Rev. *B*51, 6287 (1995).

Effect of nonscattered modes on energy transport in one-dimensional harmonic chain.
P. K. Datta and *Kalyan Kundu*.
Indian J. Phys. *A*69, 179 (1995)

The absence of localization in one-dimensional disordered harmonic chain.
P. K. Datta and *Kalyan Kundu*.
J. Phys.:Condens. Matter 6, 4465 (1994)

Nature of States in a Random-Dimer Model : Bandwidth Scaling Analysis.
P. K. Datta, D. Giri and *Kalyan Kundu*.
Phys. Rev. *B*48, 16347 (1993)

The Tuning of Resonances in the Generalized random Trimer Model.
D.Giri, P. K. Datta and *Kalyan Kundu*.
Phys. Rev. *B*48, 14113 (1993)

Nonscattered States' in Random-Dimer Model.
P. K. Datta, D.Giri and *Kalyan Kundu*.
Phys. Rev. *B*47, 10727 (1993)

An Effective Medium Treatment of the Random Bias Problem.
D. Izzo, D. H. Dunlap, Philip Phillips and *Kalyan Kundu*.
Chem. Phys. 146 381 (1990)

The Absence of Localization in certain Statically Disordered Solids.
D. H. Dunlap, *Kalyan Kundu* and Philip Phillips.
Journal of Luminescence 45 74 (1990)

Quantum Yield of a Two - Site Proton Diffusion Model : Suggestion for Dominant uncoupling Process in Cytochrome Oxidase.
J. Arrecis, *Kalyan Kundu* and Philip Phillips.
J. Phys. Chem. 94 7316 (1990)

The Absence of Localization in certain Statically Disordered Lattices in Any Spatial Dimension.
D. H. Dunlap, *Kalyan Kundu* and Philip Phillips.
Phys. Rev. *B40* 10999 (1989)

Anderson Localization from a Generalized Master Equation.
D. H. Dunlap, *Kalyan Kundu* and Philip Phillips.
J. Phys. Conden. matter *I* 7883 (1989)

Anomalous Length Dependence of Quantum Yield in Chromophore Doped Liquid Crystals.
J. Arrecis, *Kalyan Kundu* and Philip Phillips.
J. Phys. Chem. 93 5981 (1989)

A New Look at Hopping, Trapping and Anderson Localization.
Philip Phillips, *Kalyan Kundu*, D. H. Dunlap and Paul E. Parris.
Disorder and Nonlinearity, Edited By A. Bishop, D. Campbell and S. Pneumaticos.
Springer Verlag, New York, 1988.

Charge Separation Efficiencies in Artificial Photosynthetic Systems: Application to Molecularly Based Electronic Devices.
Kalyan Kundu and Philip Phillips.
Journal of Chem. Phys. 89 5922 (1988)

Anomalous Length Dependence of the Quantum Yield In Artificial Photosynthetic Systems.
Kalyan Kundu, Philip Phillips and Paul E. Parris.
Chem. Phys. Lett. 150 174 (1988)

Spin - Lattice Relaxation Below 1K: A New Mechanism For Unexpected Nuclear Spin Relaxation.
Philip Phillips, Dora Izzo and *Kalyan Kundu*.
Phys. Rev. *B37* 10876 (1988)

A Dynamical Flux Expansion For The Three - Dimensional Bond Percolation Problem.
Paul E. Parris, Philip Phillips, *Kalyan Kundu*.
Physica *A151* 144 (1988)

Long - Range Electron Transport in Random Trapping Models.
Kalyan Kundu, Dora Izzo and Philip Phillips.
Journal of Chem. Phys. 88 2692 (1988)

Transport Anisotropy and Percolation in the Two dimensional Random Hopping Model.
Kalyan Kundu, Paul E. Parris and Philip Phillips.
Phys. Rev. *B*35 3468 (1987)

Hopping Transport on site-disordered d - dimensional Lattices.
Kalyan Kundu and Philip Phillips.
Phys. Rev. *A*35 857 (1987)

The Efficiency of Photosynthetic Molecularly Based Electronic Devices.
Kalyan Kundu and Philip Phillips.
Journal of Chem. Phys. 85 7403 (1986)

Dependence of Thermodynamic Efficiency of Proton Pumps on Frequency of Oscillatory Concentration of ATP.
Mark Schell, *Kalyan Kundu* and John Ross.
Proc. Natl. Aca. Sci. (USA) 84 424 (1987)

Regioselectivity in the Intramolecular Carbon - Hydrogen Insertion in Metal - catalyzed Decomposition of some *cis* - 1 - Methyl - 3 - Arylcyclohexyl diazomethyl Ketones. A Highly efficient Homogeneous Nickel Catalyst for Carbenoid Insertion.
A. K. Chakrabarty, J. K. Ray, *Kalyan Kundu*, S. Chakrabarty, D. Mukherjee and U. R. Ghatak.
J. Chem. Soc. Perkin Trans. I. 261 (1984)

ABSTRACTS

Reaction diffusion on surfaces with reaction centers,
T. Bagarti, A. Roy, *K Kundu*, and B. N. Dev
Condensed Matter Days 2012,

Department of Physics, Kalyani University, India
Aug. 25-27, 2010.

Reaction diffusion problems on two dimensional flat surfaces with reaction centers: Diagrammatic techniques.
T. Bagarti, A. Roy, *K. Kundu*, and B. N. Dev.
Proc. of Third National Conf. of Math. Techniques: Emerging Paradigms for electronics & IT Industries
University of Delhi,
pp.TS-2.1.1-2.1.4, Jan 30-31, 2010.

A theoretical model for defect mediated patterning on Si(111)-(7×7) surfaces
T. Bagarti, A. Roy, *K Kundu.*, and B. N. Dev
Condensed Matter Days 2009
Department of Physics, Jadavpur University, India
Aug. 26-29, 2009

Stationary localized states in a discrete nonlinear schrödinger equation, named IN-DNLS
Kalyan Kundu.
Sixth International Conference of "Symmetry In Nonlinear Mathematical Physics", Institute of Mathematics, National Academy of Sciences of Ukraine, June 20-26, 2005.
Symposium on Theoretical Chemistry, 2004, Dec.9 -12, 2004, Bhaba Atomic Research Center, Mumbai (INDIA).
Condensed Matter Days-2004, 25 -27 August, 2004, Department of Physics, North-Eastern Hill University, Shillong (INDIA).

Solitary wave like solutions in discrete nonlinear schrödinger equations.
Kalyan Kundu.
Ramanujan Day, Organized by the Dept. Of Mathematics, IIT, Madras, Date : 22.12.2001, and also Stat-Phys-Kolkata-IV, January 14-19, 2002.

Cyclic Polythiophene : A Conducting Polymer.
Kalyan Kundu.
Discussion Meeting On Condensed Matter Physics, Organized by Center For Theoretical

Studies Date, IIT, Kharagpur, Date : 17.11. 2001.

A New Class of Integrable Discrete Nonlinear Equations.
Kalyan Kundu.
Condensed Matter Days-2000, Guru Ghasidas University, Bilaspur, Chhattisgarh (INDIA).

A Theoretical Study of Energy Transport In α-helical Proteins.
Kalyan Kundu.
Condensed Matter Days-1999, Jadavpur University, Calcutta (INDIA).

A Study of the Electronic Structure of Doped Polythiophene Using Cyclic Boundary.
D. Giri and *Kalyan Kundu*.
DAE Solid State Physics Symposium, Kuruskhetra (INDIA), 1998

Stationary Localized States Due To Two Quadratic Nonlinear Impurities Using The One Dimensional Discrete Nonlinear Schrödinger Equation.
Kalyan Kundu, D. H. Dunlap and V. M. Kenkre.
Condensed Matter Days-1998, T. M. Bhagalpur University, Bhagalpur (INDIA).

Discrete Nonlinear Schrödinger Equation and Stationary Localized States.
B. C. Gupta and *Kalyan Kundu*.
Nonlinear Dynamics : Integrability and Chaos.
Bharatidasan University, Tiruchirapalli(INDIA).

Stationary self-localized states of the discrete nonlinear Schrödinger equation.
Workshop, Center for Advanced Studies, University of New Mexico, Albuquerue, USA.

Stationary localized states due to quadratic nonlinearity in one dimensional systems.
A. Ghosh, B. C. Gupta and *Kalyan Kundu*
Condensed Matter Days - 1997,Visva-Bharati University, Santiniketan, (INDIA).

A theoretical study of the evolution of electronic band structure of polythiophene due to bipolaron doping.
D. Giri and *Kalyan Kundu*.

Condensed Matter Days-1995, Institute of Physics, Bhubaneswar(INDIA)

Effect of periodic boundary condition on the evolution of electronic band structure of doped polythiophene
D. Giri and *Kalyan Kundu*.
Condensed Matter Days-1995, Institute of Physics, Bhubaneswar (INDIA).

Self-trapping transition in two dimensional systems with nonlinear impurity.
B. C. Gupta and *Kalyan Kundu*.
Condensed Matter Days-1995, Institute of Physics, Bhubaneswar (INDIA).

Nature of states in the random trimer model with degenerate resonances.
D. Giri, P. K. Datta and *Kalyan Kundu*.
DAE Solid State Physics Symposium, Jaipur (INDIA), 1994.

A systematic study of the structure of polyaniline oligomers.
D. Giri, *Kalyan Kundu*, D. Majumdar and S. P. Bhattacharya.
DAE Solid State Physics Symposium, Jaipur (INDIA), 1994.

Trapping - Untrapping transition in star with a central nonlinear impurity.
B. C. Gupta and *Kalyan Kundu*.
DAE Solid State Physics Symposium, Jaipur (INDIA), 1994.

Tunable resonances in the one-dimensional correlated disordered system.
D. Giri, P. K. Datta and *Kalyan Kundu*.
DAE Solid State Physics Symposium, BARC, Bombay (INDIA), 1993.

The Propagation of Excitation In a Linear Mass - Spring System In the Presence of an Extra harmonic Potential.
D. Giri and *Kalyan Kundu*.
DAE Solid State Physics Symposium, BHU, Varanasi (INDIA), 1991.

Random Walks On Bethe Lattices.
P. K. Datta and *Kalyan Kundu*.

DAE Solid State Physics Symposium, BHU, Varanasi (INDIA), 1991.

Effects of Static Disorder on Polaron Transport.
Dora Izzo, D. H. Dunlap, *Kalyan Kundu*, Philip Phillips.
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(1) Davydov's Soliton: A Mathematical Fantasy.
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(2) Solitary Wave Like Solutions in Discrete nonlinear Schrödinger Equations.
Department of Physics, King Fahd University of Petroleum & Minerals. Date : 16.5.2004

(3) Davydov's soliton : A mathematical fantasy.
Dept. of Physics, University of Padova, Italy. Date : 6th May, 2003.

(4) Solitary wave like solutions in discrete nonlinear Schrödinger equations.
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(5) Davydov's soliton : A mathematical fantasy.
Graduate School in Nonlinear Science, Denmark Technical University, DK-2800 Lyngby, Denmark. Date : April 24, 2003.

(6) Davydov's soliton : A mathematical fantasy.
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(7) Stationary self-localized states of the discrete nonlinear Schrödinger equation.
Workshop talk in the Center of Advanced Studies, University of New Mexico, Albuquerque, USA. Date : 21. 2. 98

(8) Stationary states from the DNLSE and its utility
Department of Phys. at University of Illinois, Urbana Champagne, USA . Date : 18. 2. 98